IN THE CLAIMS:

1   1.   A short-range wireless access point enabling a mobile wireless device to resume

2   service with a network server after the wireless device moves out of the coverage area of the of

3   the access point, comprising:

4   a)   a server including transceivers for short-range wireless communication within a

5   coverage area and with a network server;

6   b)   a mobile device coupled to the server via a short-range communication link;

7   c)   means registering the mobile device when initiating proximity services with a

8   service provider;

9   d)   means transmitting a code to the mobile device for identification purposes in

10   short-range and network communications;

11   e)   means initiating a session for the mobile device with the service provider when

12   within the coverage area; and

13   f)   means maintaining the session with the service provider when the mobile device

14   moves outside the coverage area.

1   2.   The short-range wireless access point of claim 1 further comprising:

2   g)   means for transferring the session to the network server when the mobile device

3   moves outside the coverage area.

1   3.   The short-range wireless access point of claim 1 further comprising:

2   h)   means providing the access point with a first and a second identification of the

3   mobile device.

1   4.   The short-range wireless access point of claim 1 further comprising:

2   i)   means coupling the access point to the service provider via an information

3   network.

1   5.   The short-range wireless access point of claim 3 further comprising:

2   j)   means coupling the first and second identifications in a hashed code as proximity

3 identification of the mobile device.

1   6.   The short-range wireless access point of claim 3 further comprising:

2   k)   means transmitting a message to the mobile device including the hashed code and

3 instructing the mobile device to forward the message to the server for associating the first

4 identification with the second identification in subsequent request for service by the mobile

5 device.

1   7.   The short-range wireless access point of claim 1 further comprising:

2   l)   a service provider incorporated within the access point; and

3   m)   means enabling the access point to contact the mobile device and provide services

4 via the short-range communication link when the mobile device is within the coverage area or

5 through a cellular network if the mobile device is outside the coverage area.

1   8.   The short-range wireless access point of claim 3 wherein the first identification is

2 a MAC address and the second identification is a machine number for the mobile device.

1   9.   The short-range wireless accesses point of claim 1 wherein the short-range

2 communication link implements Bluetooth protocols.

1   10.   The short-range wireless accesses point of claim 1 wherein the network server

2 implements cellular protocols.

1   11.   The short-range wireless access point of claim 4 wherein the information network

2   is the Internet.

1   12.   A method in a short-range wireless access point for enabling a mobile device to

2   resume service with a network server, the service having been interrupted by moving the mobile

3   device out of the coverage area of the access point, comprising;

4   a)   establishing a short-range communication link for initiating a service with the

5   mobile wireless device, wherein the short-range communication link is based on a local area

6   identification the mobile wireless device;

7   b)   requesting from the mobile wireless device an additional identification through

8   the short-range communication link, wherein the requested identification relates to a wide area

9   network identification of the terminal;

10   c)   receiving the additional identification from the mobile wireless device;

11   d)   determining whether the service with the mobile wireless device through the

12   short-range communication link is open; and

13   e)   establishing wide area connection with the mobile wireless device using the

14   stored association in response to detecting that the short-range communication link is closed.

1   13.   The method of claim 12 further comprising:

2   f)   providing the access point with a first and a second identification of the mobile

3   device.

1   14.   The method of claim 12 further comprising:

2   g)   coupling the access point to the service provider via an information network

1   15.   The method of claim 12 further comprising:

2   h)   coupling the first and second identifications in a hashed code as proximity

3   identification of the mobile device.

1   16.   The method of claim 15 further comprising:

2   i)   transmitting a message to the mobile device including the hashed code and

3   instructing the mobile device to forward the message to the server for associating the first

4   identification with the second identification in subsequent request for service by the mobile

5   device.

1   17.   The method of claim 12 further comprising:

2   j)   incorporating a service provider within the access point; and

3   k   enabling the access point to contact the mobile device and provide services via the

4   short-range communication link when the mobile device is within the coverage area or through a

5   cellular network if the mobile device is outside the coverage area.

1   18.   The method of claim 13 wherein the first identification is a MAC address and

2   the second identification is a machine number for the mobile device.

1   19.   The method of claim 12 wherein the short-range communication link

2   implements Bluetooth protocols.

1   20.   The method of claim 12 wherein a network server implements cellular protocols

2   in establishing a wide area connection.

1   21.   The method of claim 14 wherein the information network is the Internet.

1   22.   A system enabling a mobile wireless device to resume service with a network

2   server after the wireless device moves out of a·coverage area of an access point, comprising:

3   a)   a hotspot server including transceivers for short-range wireless communication

4   within a coverage area and with a network server;

5   b)   a mobile device including means for short-range communication and network

6   communications;

7   c)   means coupling the hotspot server to a service provider;

8   c)   means stored in the mobile device for implementing short-range communications

9   with the hotspot server when within the coverage area;

10   d)   means stored in the hotspot server for recognizing the mobile device when

11   initiating short-range communication with the mobile device

12   e)   means registering the mobile device when initiating proximity services with the

13   service provider;

14   f)   means transmitting a code to the mobile device for identification purposes in

15   short-range and network communications;

16   g)   means initiating a session for the mobile device with the service provider within

17   the coverage area; and

18   h)   means maintaining the session with the service provider using the code when the

19   mobile device moves outside the coverage area.

1   23.   The system of claim 22 further comprising:

2   i)   means coupling a MAC address and a cellular address number of the mobile

3   device in a code as an identificator of a subscriber of proximity services.

1   24.   The system of claim 22 wherein the hotspot server is coupled to a backend server.

1   25.   The system of claim 22 wherein a service provider is incorporated within the

2   hotspot server and the server selects a first communication protocol to link with the mobile

3   device when the mobile device is within the coverage area and a second communication protocol

4   as a smooth handover when the mobile device leaves the coverage area.

1   26.   The system of claim 22 wherein the service provider continues a consumer

2   relation with the mobile device while out of the coverage area using the cellular address number.

3   of the device.

1   27.   The system of 22 wherein the services provider services are SMS/MMS based.

1   28.   The system of claim 22 wherein the service provider provides tailored services to

2   a mobile device.

1   29.   The system of claim 22 wherein the access point tracks and calculates services

2   used by a mobile device within a billing zone and sends the billing data to the mobile device in a

3   SMS message.

1   30.   The system of claim 22. wherein the service provider services are browser/J2ME

2   based.

1   31.   A method enabling a mobile wireless device to resume service with a network

2   server after the wireless device moves out of a coverage area of an access point, comprising:

3   a)   installing transceivers in a hotspot server for short-range wireless communication

4   within a coverage area and with a network server;

5   b)   installing short-range communication and network communications means in a

6   mobile device;

7   c)   coupling the hotspot server to a service provider;

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8   c)   storing in the mobile device means for implementing short-range

9 communications with the hotspot server when ·within the coverage area;

10   d)   storing in the hotspot server means for recognizing the mobile device when

11 initiating short-range communication with the mobile device

12   e)   registering the mobile device when initiating proximity services with the service

13 provider;

14   f)   transmitting a code to the mobile device for identification purposes in short-range

15 and network communications;

16   g)   initiating a session for the mobile device with the service provider when within

17 the coverage area; and

18   h)   maintaining the session with the service provider using the code when the mobile

19 device moves outside the coverage area.

1   32.   The method of claim 31 further comprising:

2   i)   coupling a MAC address and a cellular address number of the mobile

3 device in the code as an identificator of a subscriber of proximity services.

1   33.   The method of claim 31 wherein the hotspot server is coupled to a backend

2 server.

1   34.   The method of claim 31 wherein a service provider is incorporated within the

2 hotspot server and the server selects a first communication protocol to link with the mobile

3 device when the mobile device is within the coverage area and a second communication protocol

4 as a smooth handover when the mobile device leaves the coverage area.

1   35.   The method of claim 31 wherein the service provider continues a consumer

2 relation with the mobile device while out of the coverage area using the cellular address number

3 of the device.

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1   36.   The method of 31 wherein the services provider services are SMS/MMS based.

1   37.   The method of claim 31 wherein the service provider provides tailored services to
2   a mobile device.

1   38.   The method of claim 31 wherein the access point tracks and calculates services
2   used by a mobile device within a billing zone and sends the billing data to the mobile device in a
3   SMS message.

1   39.   The method of claim 31. wherein the service provider services are browser/J2ME
2   based.